

Restriction Requirement

The PTO has required Applicant to restrict the present application under 35 U.S.C. § 121 to one of the following groups of claims:

Group I: Claims 1-9, 20, and 21, drawn to a fiber reinforced flexible composite membrane, classified in class 442, subclass 65; or

Group II: Claims 10-19, drawn to a method of making a composite membrane, classified in class 427, subclass 407.1.

Applicant elects Group I (claims 1-9, 20, and 21) for prosecution in the subject application. Applicant reserves the right to file a patent application under 35 U.S.C. § 120 to the non-elected claims of Group II. Further, upon allowance of the elected claims, Applicant will be permitted to request rejoinder in accordance with M.P.E.P. 821.04 and *In re Ochiai*, 37 U.S.P.Q.2d 1127 (Fed. Cir. 1995) of method claims 10-19.

35 U.S.C. § 102

The PTO has rejected claims 1, 3, and 5-6 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 5,230,937 to Effenberger et al. ("Effenberger"). The Office Action states that Effenberger discloses a substrate coated with a fluoropolymer and overcoated with an elastomer, and the fluoropolymer is applied evenly so as to achieve a balanced state. (See ¶ 21.) Applicant respectfully traverses this rejection.

Effenberger does not disclose or teach a perfluoropolymer material coated on each side of a reinforcement, where the mechanical forces of the perfluoropolymer are in a balanced state to prevent the composite from curling. Applicant's invention is, in part, a membrane that has a perfluoropolymer material coating on each side of the reinforcement, where the perfluoropolymer material has mechanical forces equal on each side of the reinforcement to prevent the membrane from curling.¹ Effenberger

¹ The perfluoropolymer of Applicant's claimed invention may also be applied to each face in an uneven manner, so long as the mechanical forces of each face are in a balanced state so that the composite membrane is prevented from curling.

does not disclose a membrane where the perfluoropolymer is applied in an amount sufficient to impart a balanced state of mechanical forces to prevent the composite membrane from curling. In fact, Effenberger teaches away from this limitation when it discusses applying a perfluorinated polymer to the substrate in a manner to maintain the flexibility of the substrate. (See Col. 3, l. 59-61; Col. 8, l. 26-30; and Col. 9, l. 61-68-Col. 10, l. 1-9). Accordingly, Effenberger does not disclose all of the limitations of the rejected claims, and the rejection should be withdrawn.

The PTO has also rejected claims 1-6 and 21 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 5,217,797 to Knox et al. ("Knox"). The Office Action states that Knox describes an elastomeric layer attached to a fluoropolymer layer, and that Knox applies the fluoropolymer on each side of the layer evenly so as to achieve a balanced state. (See ¶ 22.) Applicant respectfully traverses this rejection.

Knox does not disclose a composite membrane having a perfluoropolymer coating on each side of the reinforcement material as required by the rejected claims. Knox discloses a composite material (15) made from a blend of polymer (12) and ePTFE fibers (13), which is coated on only one side with a perfluoropolymer material (11) and coated on the opposing side with an elastomeric layer (14). (See Figure 1.) Further, Knox does not disclose a perfluoropolymer layer applied to each side of the reinforcement material in a manner sufficient to impart mechanical forces against the reinforcement material in a balanced state to prevent the composite membrane from curling as required by the rejected claims. Accordingly, Knox does not disclose every element and limitation of the rejected claims, and this rejection should be withdrawn.

35 U.S.C. § 103

The PTO rejected claims 1, 7-9, and 20 under 35 U.S.C. § 103(a), as being unpatentable over Effenberger in view of Knox. Applicant respectfully traverses this rejection.

As discussed above, neither Effenberger or Knox discloses each and every limitation and element of the rejected claims. Specifically, Effenberger and Knox do not disclose a membrane where a perfluoropolymer material is applied to each side of a

reinforcement material so that the mechanical forces of the perfluoropolymer are in a balanced state to prevent the composite membrane from curling. Further, Knox is non-analogous to the composite membrane and conveyor belt art of Applicant's claimed subject matter, and cannot be combined with Effengerger to render obvious the claimed invention. Conveyor belts are used to move objects, and one skilled in the conveyor belt art would not look to the diaphragm art, which is used to create pressure differentials for use with valves and pumps. For these reasons, no prima facie case of obviousness is shown, and this rejection should be withdrawn.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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MARKED UP VERSION SHOWING CHANGES MADE

Below are the marked up amended claim(s):

3. (Once Amended) A fiber-reinforced flexible composite membrane according to claim 1, wherein the perfluoropolymer comprises PTFE.
4. (Once Amended) A fiber-reinforced flexible composite membrane according to claim 1, wherein the perfluoropolymer comprises PTFE and the elastomer comprises silicone rubber.
5. (Once Amended) A fiber-reinforced flexible composite membrane according to claim 4, wherein the reinforcement comprises a glass fiber.
6. (Once Amended) A fiber-reinforced flexible composite membrane according to claim 1, wherein the perfluoropolymer material is applied in equal amounts to each face of the reinforcement.
9. (Once Amended) A fiber-reinforced flexible composite membrane according to claim 7, wherein in the liquid silicone rubber comprises an organic peroxide catalyst.